

Remarks

Claims 9-21 are pending. Claims 9, 12, 18, and 19 are amended. Favorable reconsideration is respectfully solicited.

Claims 9 and 18 have been amended to restrict the predispersible polymer to those "consisting essentially of" those polymers and copolymers listed in "a)" of claim 9. This list of polymers does not include acetalized polyvinyl alcohols. Claims 12 and 19 further restrict the polymers to those consisting of the listed polymers and copolymers.

Claims 9-18 have been rejected under 35 U.S.C. § 102(e) over Hilton et al. U.S. 6,699,915 ("*Hilton*"). Applicants respectfully traverse this rejection.

Applicants invention is directed to a redispersible powder composition containing a redispersible vinyl polymer and a setting accelerant, optionally also an antiblocking agent. This composition surprisingly results in a cement additive which has improved antiblocking characteristics ("BR") and sedimentation performance ("TS"). The use of these compositions in cementitious formulations also surprisingly result in an increase in tensile bond strength, in particular, after storage of the cured (set) product under wet conditions ([0085] and Table 2). The products may be prepared by spray drying of a dispersion of one or more of the enumerated polymers together with a protective colloid and an accelerant which is an alkali metal or alkaline earth metal salt of a C₁₋₄ carboxylic acid. As is the case with all redispersible powder compositions, the constituents redisperse when added to water to form a dispersion having a particle size and particle size distribution similar to the dispersion from which they are prepared. For example, a redispersible polyvinylacetate/ethylene copolymer powder is completely different from the polyvinylacetal/ethylene powders which are not redispersible, even though they may have the same monomer content and distribution.

Hilton discloses pumpable cementitious foams which may contain numerous additives, including polyvinylacetate polymers, and setting accelerants, one of which is calcium

formate (col. 7, l. 36). However, *Hilton* does not disclose any redispersible polymer, nor does *Hilton* disclose any redispersible powder composition. *Hilton* also does not disclose any redispersible composition containing a redispersible polymer and a setting accelerant and protective colloid. Thus, anticipation is not made out by *Hilton*. *Hilton* also does not disclose the limitation that the redispersible powder composition contain 3 to 20 weight percent of accelerant based on the weight of the powder. Rather, *Hilton* discloses use of an accelerant in amounts of 0.1% to 20%, preferably 1-5%, based on the weight of the overall cement composition, not based on the weight of a redispersible polymer powder composition, which *Hilton* does not disclose at all.

No example in *Hilton* used either a water redispersible polymer powder nor any alkali metal or alkaline earth metal carboxylate setting accelerant. The only setting accelerant used was alum, in Table 1, but this ingredient, as with all the others, was added separately.

Hilton does not disclose the claimed invention, and withdrawal of the rejection under 35 U.S.C. § 102(e) is solicited for this reason. Nor does *Hilton* render the invention obvious, as it could not be predicted that preparation of a powder composition containing alkali metal or alkaline earth metal carboxylate setting accelerants would improve blocking resistance or sedimentation behavior, nor tensile bond strength. Wet tensile bond strength was considerably enhanced overall as compared to the comparative example containing only a redispersible polymer (col. 2, (7d/21N) of Table 2. Although it is known that setting accelerants increase the rapidity of setting, the fact that the combination of redispersible polymer powder and accelerant into a redispersible powder composition improved tensile bond strength is most surprising.

Claims 9-18 have been rejected under 35 U.S.C. § 102(b) over *Schad* U.S. 5,366,550 ("*Schad*"). Applicants respectfully traverse this rejection.

Schad discloses cementitious compositions which may contain a "dried latex polymer" which may be a redispersible polymer powder (as some of the dried products listed at column 3, lines 17-27 are such products), and numerous other additives, including setting accelerants, one of which (calcium formate) is an alkaline earth metal carboxylate. However, like

Hilton, Schad does not disclose any redispersible powder composition containing both a redispersible polymer powder and an alkali metal or alkaline earth metal carboxylate and protective colloid (all in one composition). As a result, *Schad* could not have appreciated the unexpected benefits in blocking resistance, sedimentation, or wet tensile bond strength achieved by Applicants. *Schad* also does not disclose the amount of accelerant required by the claims, 3-20% based on the weight of the redispersible powder composition. The weight percent ranges disclosed by *Schad*, 0-3%, preferably 0.01 - 2 weight percent, are based on the total cementitious composition, not on any redispersible powder composition. As stated by *Trintec Indus., Inc. v. TOP-U.S.A. Corp.*, 63 USPQ2d 1597 (Fed. Cir. 2002), anticipation requires "strict identity." That is not the case here. Withdrawal of the rejection of the claims over *Schad* under 35 U.S.C. § 102(b) is respectfully solicited.

Claims 9-21 have been rejected under 35 U.S.C. § 103(a) over Schmitz U.S. 6,350,808 ("*Schmitz*") in combination with *Hilton* or *Schad*.

Hilton and *Schad* have been discussed previously. Neither reference teaches or suggests forming a redispersible powder composition containing redispersible polymer powder, protective colloid, and metal carboxylate setting accelerant.

Schmitz teaches the use of dispersion powders (interpreted to be redispersible polymer powders) in conjunction with a protective colloid and a unique, partially acetalized polyvinyl alcohol, to improve mortars for installation of insulation panels of polystyrene or mineral fibers. *Schmitz* teaches that his compositions can be in the form of a dispersion powder, and may contain "further additives," a large "shopping list" of which are disclosed. *Schmitz* does not exemplify any powder composition containing any "further additive," much less a setting accelerant, and thus neither directs the skilled artisan to Applicants' claimed invention, nor did he recognize the unexpected and surprising benefits flowing from Applicants' claimed invention.

More importantly, however, *Schmitz* does not teach the use of any polymer powder composition which does not contain a partially acetalized polyvinyl alcohol. The latter is the *raison d'être* for his invention. *Schmitz* showed in Table I that composition containing only

redispersible powder (VDP7) or redispersible polymer powder plus additional polyvinyl alcohol (VDP1-VDP6) are not suitable for use in his invention. Thus, *Schmitz* teaches away from the use of a redispersible powder composition which does not contain a partially acetalized polyvinyl alcohol.

Applicants' claims have been amended and do not allow the use of acetalized polyvinyl alcohol as a result of the transitional phrases used. The use of partially acetalized polyvinyl alcohols was never intended by Applicants, and the use of these clearly materially affects the basic and novel nature of the compositions. Because *Schmitz* teaches away from such compositions, the claims are non-obvious over the combination of *Schmitz* in view of either of *Hilton* or *Schad*. Withdrawal of the rejection of the claims under 35 U.S.C. § 103(a) is thus respectfully solicited.

Applicants submit that the claims are now in condition for Allowance, and respectfully request a Notice to that effect. If the Examiner believes that further discussion will advance the prosecution of the Application, the Examiner is highly encouraged to telephone Applicants' attorney at the number given below.

Respectfully submitted,

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